

Attorney's Docket No. 0331-011
U.S. Application No. 09/818,252
Page 2

Reconsideration and allowance of the above identified application are respectfully requested. Claims 1-3, 6-12 are currently rejected and claims 4 and 5 are allowed.

Claims 8 and 9 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Jones (U. S. Patent Number 6,310,909 B1). According to claim 8 of the present application, a method of synchronizing a public switched telephone network (PSTN) voice signal and a digital subscriber line (DSL) data signal, includes the steps of: upsampling the voice signal, to increase said voice signal's frequency to a frequency comparable with that of the data signal and sample slipping one of said voice signal and said data signal, to synchronize said voice signal and said data signal.

In the Official Action it is alleged that Jones discloses a method of synchronizing a public switched telephone network (PSTN) voice signal and a digital subscriber line (DSL) data signal, the method allegedly comprising the step of: upsampling (block 17 in Fig. 2) the voice signal, to increase said voice signal's frequency to a frequency comparable with that of the data signal; and sample slipping one of said voice signal and said data signal, to synchronize said voice signal and said data signal (Col. 6, L12-17). Applicants strenuously disagree. Jones does not teach either of the steps set forth in Applicants' claim 8 combinations.

For example, block 17 in Fig. 2 of Jones depicts a transmit filter, and as described at Col. 6 Lines 12-17 of Jones, "The analog signal output by the DAC 16 is provided to transmit filter 17, which typically includes a low pass filter (e.g., third order Butterworth) which removes undesirable high frequency components generated by the DAC 16. In this manner, the transmit filter 17 reduces undesirable out-of-band energy." The transmit filter 17 of Jones does not perform the function of upsampling a voice signal to a frequency comparable with that of the data signal as set forth, among other features, in Applicants' claim 8 combination.

Moreover, the transmit filter 17 of Jones also does not perform the step of sample slipping one of the voice signal and the data signal to synchronize the voice signal and the data signal. The Official Action (at section 4(d)) references column 6, lines 12-17 of Jones as allegedly teaching this claimed step. This section again

Attorney's Docket No. 0331-011
U.S. Application No. 09/818,252
Page 3

refers to operation of the transmit filter 17 which operates to remove high frequency components. Transmit filter 17 does not perform sample slipping that results in synchronization. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claims 8 and 9 are respectfully requested.

Claims 8-9 also stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Long et al. (U. S. Patent Number 5,991,311). The Official Action refers to block 104 in Fig. 11 and Col. 10, L 40-60 in Long for rejecting these claims. In the referenced section, Long describes how a CAP filter shapes the transmitted pulses and places the transmitted signal into the desired frequency band and that the output from the CAP filter can have a higher sampling rate. However, this section of Long describes a TCM-DSL modem and its operation on a data stream. CAP filter 104 operates on a data signal, not a voice signal. Thus CAP filter 104 cannot possibly perform the step of "upsampling the voice signal, to increase said voice signal's frequency to a frequency comparable with that of the data signal", as set forth, among other features in Applicants' claim 8 combinations.

With respect to the step of "sample slipping one of said voice signal and said data signal, to synchronize said voice signal and said data signal", reference is made in the Official Action to column 10, lines 40-46 of Long. This section of Long describes filtering, buffering and D/A conversion of data signals. Nowhere in this section of Long is there any reference whatsoever to sample slipping that results in synchronization of a voice signal and a data signal. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claims 8 and 9 are respectfully requested.

Claim 10 stands rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Long et al. (U. S. Patent Number 5,991,311). According to claim 10 of the present application, a method of synchronizing a public switched telephone network (PSTN) voice signal and a digital subscriber line (DSL) data signal, includes the steps of: determining a phase offset between the voice signal and the data signal; and shifting one of said voice signal and said data signal according to said phase offset, to synchronize said voice signal and said data signal. The Official Action refers to block 128 in Fig. 13 and Col. 12, L 20-25 in Long for rejecting these

Attorney's Docket No. 0331-011
U.S. Application No. 09/818,252
Page 4

claims. In Long, the phase offset 128 is the phase difference between the 400 Hz clock and the measured downstream TCM ISDN timing window, not between a voice signal and a data signal. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claim 10 are respectfully requested.

Claims 1-3 and 11-12 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Jones (U. S. Patent Number 6,310,909 B1). The Official Action states:

"Jones explicitly states that when transmitting signals from the transmitter to receiver the twisted pair telephone loop 23 is permitted transmitting of communication signals (Col 6, L 18-24). Jones's invention is particularly relates to digital communication via twisted pair telephone lines in DSL system and vice band signals. Thus, Jones didn't fail to handle voice signals and Jones meets all the limitations in amendment claims 1-3 and 8-9."

However, Applicants' respectfully note that its claim 1 combination includes "a synchronization circuit coupled to synchronize said voice signal and said data signal". At least this feature, in combination with the other features in claim 1, is not found in Jones. Jones merely describes that "the analog to digital converter 27 may be synchronized to timing recovery circuit 29, which facilitates synchronization of two communicating transceivers". However synchronizing two communicating transceivers is not the same as synchronizing a voice signal and a data signal. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claims 1-3 and 11-12 are respectfully requested.

Claims 1-3 and 11-12 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Long et al. (U. S. Patent Number 5,991,311). According to claim 1 of the present invention a system for synchronizing voice signal received via a public switched telephone network (PSTN) and data signal received via a digital subscriber line (DSL), the system includes a PSTN interface coupled to transmit and receive the voice signal; a data DSL transceiver coupled to modulate and demodulate the data signal; a synchronization circuit coupled to synchronize said voice signal and said data signal; and a converter circuit coupled to convert the

Attorney's Docket No. 0331-011
U.S. Application No. 09/818,252
Page 5

synchronized voice signal and the synchronized data signal between analog and digital formats.

By way of contrast, the Long patent relates to synchronizing TCM-DSL timing to TCM-ISDN by controlling the send and receive windows to reduce crosstalk. The Official Action refers to Fig. 11 in Long as a basis for this ground of rejection. Specifically block 98 in Fig. 11 of Long is alleged to depict a synchronization circuit coupled to synchronize said voice signal and said data signal, and block 44 in Fig. 11 of Long is alleged to depict a converter circuit coupled to convert the synchronized said voice signal and the synchronized data signal between analog and digital formats. Applicants strenuously disagree as set forth below.

Fig. 11 of Long depicts a DSL modem. As described in column 10, lines 47 et. seq. of Long, block 98 in Fig. 11 is a burst timing control used to control data send and receive windows. Block 44 in Fig. 11 of Long is an A/D and D/A converter used to convert data signals from digital to analog or analog to digital as needed. Voice signals are not used by the modem in Fig. 11 of Long. Therefore, these descriptions in Long could not possibly anticipate a synchronization circuit coupled to synchronize said voice signal and said data signal in combination with the other elements of Applicants' claim 1 combination. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claims 1-3 and 11-12 are respectfully requested.

Claims 1, 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over applicants' admitted prior art (AAPR) in view of Jones. The Official Action states that "it would have been obvious to one of ordinary skill in the art at the time of invention was made to employ the synchronization circuit by Jones in the voice circuit of AAPR in order to improve efficiencies of the framing rate of the voice channels in the DSL data streams." However neither Jones nor Applicants' description of Figure 1 provide any hint or suggestion that somehow grafting the synchronization circuit of Jones into the system of Figure 1 would "improve efficiencies of framing rate of voice channels in DSL data streams". Moreover, even if these two descriptions were somehow combined, Applicants respectfully disagree that synchronizing the two transceivers of Jones in combination with the circuitry in

Attorney's Docket No. 0331-011
U.S. Application No. 09/818,252
Page 6


Figure 1 would have lead one of ordinary skill in the art to a synchronization circuit coupled to synchronize said voice signal and said data signal. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claims 1, 6 and 7 are respectfully requested.

All of the rejections raised in the Office Action having been addressed, it is respectfully submitted that this application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions regarding this response or the application in general, she or he is invited to contact the undersigned at (540) 361-1863.

Respectfully submitted,

POTOMAC PATENT GROUP PLLC

By:


Steven M. duBois
Registration No. 35,023

Date: March 14, 2005

Potomac Patent Group, PLLC
P.O. Box 270
Fredericksburg, VA 22404
(540) 361-1863